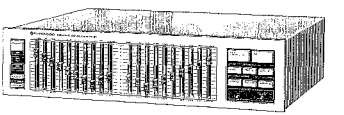
GRAPHIC EQUALIZER

GE-9X

INSTRUCTION MANUAL



KENWOOD

DEAR AUDIO FAN

The purpose of this manual is to acquaint you with the operating features of your new GE-9X. You will notice that in every detail of planning, engineering, styling, operating convenience, and adaptability, we have sought to anticipate your needs and desires.

We suggest that you read this manual carefully. Knowing how to set up your GE-9X to the best advantage will enhance your listening pleasure right from the start. You will also become aware of the ease with which you can adjust your GE-9X to meet your special requirements.

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FOR YOUR RECORDS

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your Kenwood dealer for information or service on this product.

Model GE-9X Serial number_____

UNPACKING

Unpack the unit carefully and make sure that all accessories and cables are put aside so they will not be lost.

Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.

We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

IMPORTANT!

U.S.A. AND CANADA

Units shipped to the U.S.A. and Canada are designed for operation on 120 volts AC only. These units are not equipped with an AC Voltage Selector switch and the discussion of such a switch that follows should be disregarded.

ALL OTHER COUNTRIES

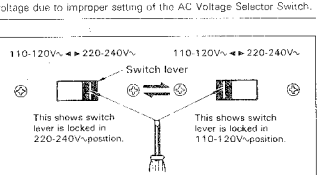
Units shipped to countries other than the U.S.A. and Canada are equipped with an AC Voltage Selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

AC VOLTAGE SELECTION

This unit operates on 110-120 volts or 220-240 volts AC. The AC Voltage Selector Switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

Note:

Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC Voltage Selector Switch.


110-120V~ ◄► 220-240V~
110-120V~ ◄► 220-240V~
Switch lever
This shows switch lever is locked in 220-240V~ position.
This shows switch lever is locked in 110-120V~ position.
Move switch lever to match your line voltage with a small screw driver or other pointed tool.

AC VOLTAGE SELECTOR SWITCH

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

BEFORE OPERATION

NOTES ON INSTALLATION

Do not place the unit in a place which is exposed to direct sunlight, near a heating appliance, etc.

Do not place a vase containing water, makeup, etc. on the unit. Do not use in a humid place.

To maintain good ventilation, do not put records or a table-cloth on the unit. Place the unit at least 10 cm away from the walls.

Choose a location that is relatively free from vibration or excessive dust.

SAFETY PRECAUTIONS

Never remove the case. If the internal parts are touched, accidently, a serious electric shock might occur.

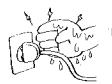
Never touch internal parts.

If a metal object, such as a hair pin or a needle, comes into contact with the power socket on the rear panel, a dangerous electric shock may result. For families with children, never permit children to put anything, especially metal, inside this unit.

Do not connect other audio equipment with a power consumption larger than that specified to the AC outlet on the rear panel. Never connect other electrical appliances, such as an iron or toaster.

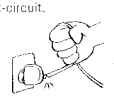
Never connect other electrical appliances.

Touching the power plug when your hands are wet may result in a serious electric shock.



Never touch with wet hands.

Never pull, bend or extend the power cord. This could damage the power cord, resulting in a broken cord or short-circuit.



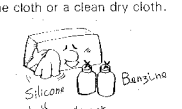
Always grasp the plug.

IN CASE OF ABNORMAL SMELL

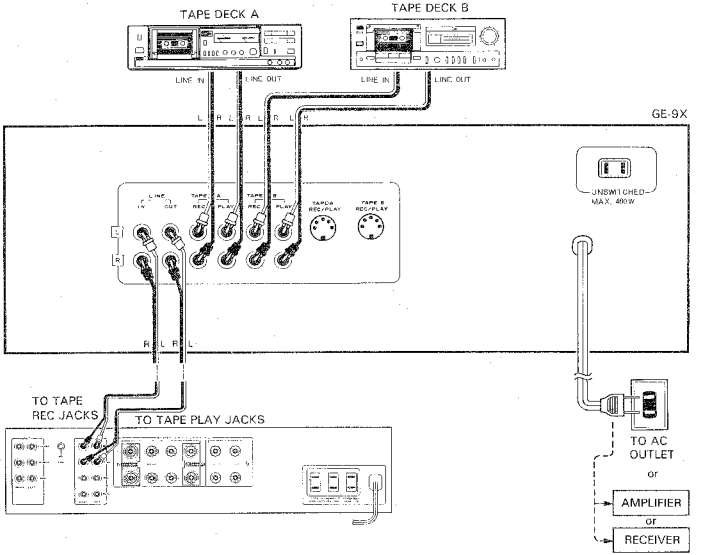
If an abnormal smell or smoke is detected, immediately turn the power OFF and pull out the power cord. Contact your dealer or nearest Kenwood Service Station.

CLEANING

Do not use volatile solvents such as alcohol, paint thinner, gasoline, benzine, etc. to clean the cabinet. Use a silicone cloth or a clean dry cloth.



SYSTEM CONNECTIONS



Connecting the GE-9X to Your Amplifier or Receiver

The Model GE-9X is designed to be connected in your system's tape monitoring path. If your amplifier or receiver has two sets (A and B) of TAPE jacks, the GE-9X may be connected to either set of jacks. Using shielded audio cables with phono-type connector plugs, connect the GE-9X's LINE IN jacks to the TAPE REC jacks of your amplifier or receiver, and the LINE OUT jacks to the TAPE PLAY jacks of your equipment. To avoid confusion, connect one channel at a time.

Connecting Tape Deck

Model GE-9X has two sets of TAPE jacks, A and B, which may be used to record with two decks at a time or to dub from one deck to the other.

Recording-path connection

Connect the GE-9X's REC jacks to the LINE IN jacks of your tape deck, taking care to avoid cross-connection between the left and right channels.

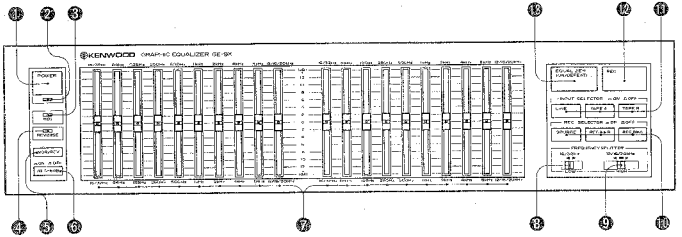
Playback-path connection

Connect the GE-9X's PLAY jacks to the LINE OUT jacks of your tape deck.

Note:

When this unit is connected to an amplifier or receiver equipped with a REC OUT SELECTOR switch, it should be noted that no signal is applied to this unit when the REC OUT SELECTOR switch is left at OFF. In this case, set the REC OUT SELECTOR switch to your desired source.

CONTROLS AND INDICATORS



① POWER switch
Used to turn the power on and off.

② POWER indicator
Lights to show that the power is supplied to the unit.

③ REC indicator
Lights when the REC switch is set to ON and equalization operating.

④ REVERSE indicator
Lights to show that the NOR./REV. switch is set to "REV.".

⑤ NOR./REV. switch
Depressing this switch reverses the frequency response set with the slide controls.
The next time it is depressed restores the reversed characteristics.

⑥ ATT –6 dB switch
Used to attenuate the input signal by 6 dB. Depress this switch when answering a telephone call or a sudden interruption is required.

⑦ Slide controls
Used to compensate the frequency response. Right and left channels can be controlled independently. Maximum range of adjustment is ± 12 dB.

⑧ LOW FREQUENCY SPLITTER switch
Selects the low cut frequency, 16 and 32 Hz, for each channel. Set to the 32 Hz setting in normal use and change to the 16 Hz setting when necessary.

⑨ HIGH FREQUENCY SPLITTER switch
Sets the high cut frequency, 12, 16, or 20 kHz, for each channel. Set to the 16 kHz setting in normal use and change to the 12 or 20 kHz setting when required.

⑩ REC SELECTOR switch
Selects the source signal available at the TAPE A and B jacks.
SOURCE switch — With the REC switch in the OFF setting, setting this switch to ON permits the recording of the signal fed to the LINE IN jacks of this unit. With the REC switch in the ON setting, setting this switch to ON permits recording of the signal selected with the INPUT SELECTOR switches.
REC A►B — Used to dub from tape A to tape B.
REC B►A — Used to dub from tape B to tape A.

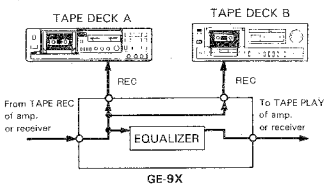
⑪ INPUT SELECTOR switches
Select the desired source signal.
LINE switch — Used to listen to the source signal of the amplifier or receiver to which this unit is connected.
TAPE A — Used to monitor a recording in progress or to play back the tape on the tape deck connected to the TAPE A jacks.
TAPE B — Used to monitor a recording in progress or to playback the tape on the tape deck connected to the TAPE B jacks.

⑫ REC switch
When the switch is pressed so that the REC indicator lights with the SOURCE switch of REC SELECTOR depressed, the signal selected with the INPUT SELECTOR switches is present at the REC jacks of TAPE A and TAPE B.

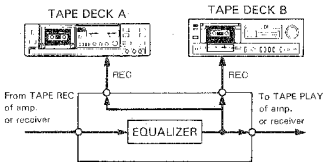
⑬ EQUALIZER (ON/DEFEAT) switch
Determines whether or not the signal selected by the INPUT SELECTOR switches is given equalization. Setting this switch to ON lights the LED indicators in the slide controls.

OPERATING INSTRUCTIONS

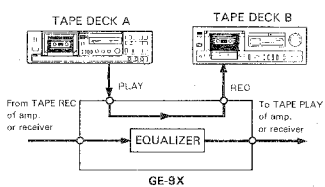
(A) To record the signal selected with the LINE switch and listen to the signal after equalization
Procedure:
1) Set the LINE switch of INPUT SELECTOR to ON.
2) Set the EQUALIZER switch so that the LED indicators in the slide controls light.
3) Set the REC switch so that the REC indicator does not light.
4) Set the SOURCE switch of REC SELECTOR to ON.
5) Operate the tape deck A or B to record the signal.



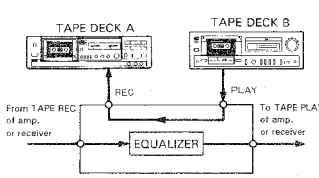
(B) To listen to a source signal after equalization and record the processed signal on tape deck A or B.
Procedure:
1) Set the REC switch so that the REC indicator lights.
2) Repeat steps 1), 2), 4) and 5) in procedure (A).



(C) To listen to a source signal after equalization while dubbing from tape A to B.
Procedure:
1) Repeat steps 1) and 2) in procedure (A).
2) Depress the REC A ► B switch of REC SELECTOR to ON.
3) Playback tape on the tape deck A and record on tape B.



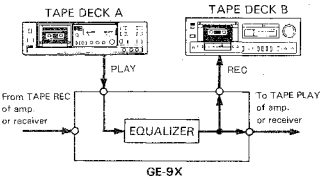
(D) To listen to a source signal after equalization while dubbing from tape B to tape A.
Procedure:
1) Repeat steps 1) and 2) in procedure (A).
2) Depress the REC B ► A switch of REC SELECTOR to ON.



(E) To listen to tape A after equalization and record the processed signal on tape B.

Procedure:

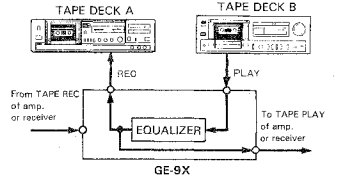
1) Depress the TAPE A switch of INPUT SELECTOR to ON.
2) Press the EQUALIZER switch so that the LED indicators in the slide controls light.
3) Set the REC switch so that the REC indicator lights.
4) Depress the SOURCE switch of REC SELECTOR to ON.
5) Playback tape A and record on tape B.



(F) To listen to tape B after equalization and record processed signal on tape A

Procedure:

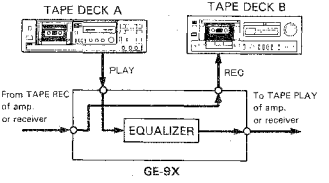
1) Depress the TAPE B switch of INPUT SELECTOR to ON.
2) Repeat steps 2) through 4) in the procedure (E).
3) Playback tape B and record on tape A.



(G) To listen to tape A after equalization and record the source signal on tape B

Procedure:

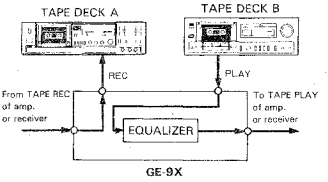
1) Depress the TAPE A switch of INPUT SELECTOR to ON.
2) Set the EQUALIZER switch so that the LED indicators in the slide controls light.
3) Set the REC switch so that the REC indicator does not light.
4) Depress the SOURCE switch of REC SELECTOR to ON.
5) Playback the tape on tape deck A and record on tape deck B.



(H) To listen to tape B after equalization and record the source signal on tape A

Procedure:

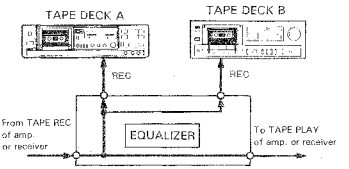
1) Depress the TAPE B of INPUT SELECTOR switch to ON.
2) Repeat steps 2) through 4) in procedure (G).
3) Playback the tape on tape deck B, and record the source on tape deck A.



(I) To listen to the source signal without equalization and record the signal on tape A and/or tape B

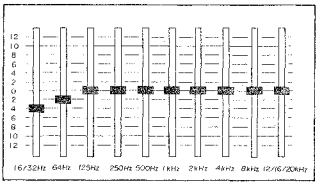
Procedure:

1) Depress the LINE switch of INPUT SELECTOR to ON.
2) Press the EQUALIZER switch so that the LED indicators in the slide controls do not light.
3) Press the REC switch so that the REC indicator does not light.
4) Depress the SOURCE switch of REC SELECTOR to ON.
5) Put the tape deck A and/or B in the recording mode.

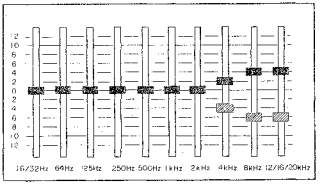


EFECTIVE USE OF THE MODEL GE-9X

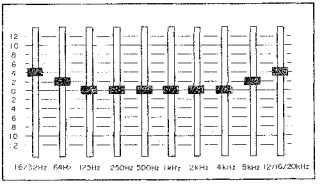
(1) A not very spacious room with solid concrete walls tends to have relatively "live" acoustic characteristics with its low frequency response often unnaturally emphasized. If your room suffers from this kind of negative acoustic effect, reduce the slider controls between 32 Hz and 250 Hz until a "flat" low frequency response is obtained.



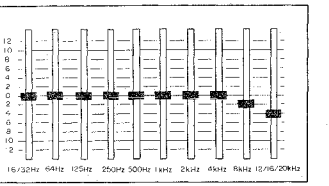
(2) Hissing noise or residual noise of amplifier or receiver may be produced when playing back a recorded tape. These noise components are in the range of high frequency over 2 kHz. To reduce the noises, boost the slide controls in those ranges where the noise occurs to give the recording pre-emphasis, and depress the NOR./REV. switch to ON to obtain the reversed characteristics of this pre-emphasis when playing back the recorded tape. As described above, this unit can work as a noise reduction system.



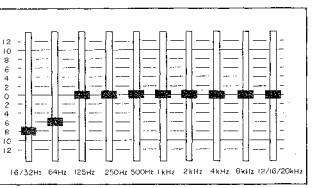
(3) Unlike floor-standing or large book-shelf speaker systems, compact one or two way loudspeaker systems usually have limited low- and high-end response. To compensate for this tendency, use the 32 and 64 Hz slider controls for the low-end response, and 8 and 12/16/20 kHz for the high-end response on a trial-and-error basis.



(4) The GE 9X may also be used to eliminate annoying tape hiss or record scratch noise generated during playback. For this use the 8 and 12/16/20 kHz slider controls.

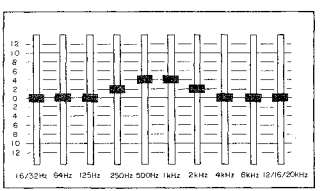


(5) Low frequency and subsonic noise, such as hum, rumble, and low frequency vibrations, can be effectively suppressed by adjusting the 16/32 Hz and 64 Hz slider controls.

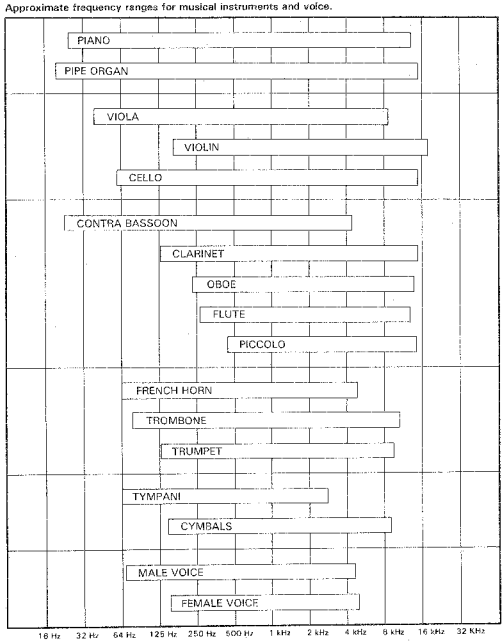


(6) When you wish to add "punch" to your music, emphasize low and mid frequency bands of 125, 250, 500 Hz and 1 and 2 kHz as you require.

(7) To spotlight the vocal out of its orchestral background, increase the 250 Hz, 500 Hz, 1 kHz or 2 kHz slider controls, where most of the vocal energy is concentrated.



Approximate frequency ranges for musical instruments and voice.



IN CASE OF DIFFICULTY

If your unit should not perform as expected, consult the table below to see if the problem can be corrected before seeking help from your Kenwood dealer or service representative.

Symptom	Cause	Remedy
Power not turned on.	Power AC plug connection. AC plug connected to the AC outlet marked "SWITCHED" on the rear panel of the amplifier or receiver.	Check AC plug connection. Turn on the POWER switch of the amplifier or receiver.
The input signal fed through the LINE IN jacks is not output.	Either the TAPE A or TAPE B switch of INPUT SELECTOR is set to ON.	Set the LINE switch of INPUT SELECTOR to ON.
Equalization effect not obtained.	Input and output connections reversed. The TAPE switch of the amplifier or receiver is not set properly. Indicators (LEDs) in the slide controls not lit.	Connect input and output correctly. Set the TAPE switch of the amplifier or receiver properly. Set the EQUALIZER switch so that the LEDs light.
Equalization reversed.	The NOR./REV. switch to ON.	Set the NOR./REV. switch to OFF.

SPECIFICATIONS

Equalizer Section

Equalizer Characteristics

Variable Range ..... ± 12 dB

Individual Channel Adjust .... 16 Hz/32 Hz, 64 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 12 kHz/16 kHz/20 kHz

Total Harmonic Distortion ..... 20 Hz to 20 kHz, all controls defeated

1 V Output	0.006%
1 V Output at 1 kHz	0.003%
3 V Output at 1 kHz	0.003%

Insertion Loss ..... 0 dB (all controls defeated)

Maximum Output Voltage ..... 9 V at 1 kHz, 0.01% THD

Frequency Response ..... 10 Hz to 30 kHz, +0 dB, −1 dB

Signal to Noise Ratio ..... 103 dB at 1 V

(IHF-A Short-circuited) ..... 115 dB at 7 V

Attenuator (ATT) ..... −6 dB

Input Impedance ..... 50 kohms

Output Impedance ..... 600 ohms

General

Power Consumption ..... 0.15 A(U.S.A.)/17 W(Others)

Dimensions ..... W 440 mm (17-5/16")

H 109 mm (4-5/16")

D 315 mm (12-13/32")

Weight (Net) ..... 4.4 kg

Note:

Kenwood follows a policy of advancements in development. For this reason specifications may be changed without notice.